Syphilis infection in pregnancy

The management of syphilis in pregnancy and care of the newborn

Northern Ireland professional guidance and responsibilities 2018

Northern Ireland Infectious Diseases in Pregnancy Screening Programme

HSC Public Health Agency

Title	Syphilis infection in pregnancy. 2018 Northern Ireland guidance on the management of Syphilis in Pregnancy and care of the newborn.
Authors	Lorna Hawe- Regional Antenatal Infectious Disease Screening Programme Co-Ordinator
Directorate	Public Health Agency –Service Development and Screening
Screening Programme	Northern Ireland Infectious Diseases in Pregnancy Screening Programme.
Replaces	Guideline on the Detection and Management of Syphilis Infection in pregnancy 2011
Target audience	Obstetricians/ Midwives, GUM staff, Paediatricians, Laboratory services and Pharmacy services. Also contains a link to patient information leaflets.
Guideline Contributors	The guideline was sent regionally for comments during its development to Trust Antenatal Screening Co-Ordinators, Lead midwives, Obstetricians, Paediatricians, Neonatologists, GUM Consultants, and Pharmacy Leads.
Reviewed by	Neonatal network February 2018
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Contents

1. Management of syphilis in pregnancy and care of the newborn.

1.1 Background

This document has been developed to advise health care professionals in Northern Ireland of their responsibilities in relation to the detection and management of syphilis infection in pregnant women and the management of their babies.

The document is based on the British Association of Sexual Health and HIV (BASHH) UK national guidelines on the management of syphilis 2015[1]

https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/

Practitioners should refer to the full UK National Guidelines, including any updated guidance, for detailed information on clinical management and seek specialist advice as required.

Effective assessment and management of syphilis in pregnancy and any baby born to a syphilis positive mother should consist of a multi-disciplinary approach with joint management, involving Midwifery, Obstetrics, Genital-Urinary Medicine, Paediatrics, Pharmacy and Laboratory services. This requires adequate information flows between the disciplines to facilitate optimum management.

1.2 AIMS

i) To ensure that all pregnant women receive high quality up to date information on the syphilis screening programme, and the effects of syphilis in pregnancy, so they can make an informed choice about their screening options. Some women may choose not to be screened for syphilis and it is important that this choice is respected.

ii) To identify and treat maternal syphilis early in pregnancy, in order to reduce long term effects on the mother and reduce the risk of congenital syphilis in the baby.

1.3 KEY OBJECTIVES:-

1.3.1 To offer testing for syphilis infection to all pregnant women who:-

i) Book for maternity care within a Health and Social Care Trust in Northern Ireland.

ii) Present unbooked to a maternity unit in Northern Ireland, including those presenting in labour or immediately post-delivery, without documented evidence of syphilis testing in the current pregnancy**.**

1.3.2 To provide appropriate follow-up and treatment, where necessary, of:-

i) Pregnant women identified with syphilis infection.
ii) Newborn infants of women identified with syphilis during pregnancy.
iii) Sexual contacts of women identified with syphilis infection.
iv) Other children of women identified with syphilis infection.

1.3.3 To ensure that systems are in place to provide quality assurance to the programme and ensure that the National Quality Standards are being met - see link below.
http://infectiousdiseases.screening.nhs.uk/standards

2 Introduction

Syphilis is caused by infection with Treponema pallidum. Syphilis is a multi-stage, multi-system disease which is broadly defined as congenital or acquired. It can be acquired through direct contact with syphilitic chancres or it can readily cross the placenta, (vertical transmission) leading to congenital infection and this can occur at any stage of pregnancy. The risk of vertical transmission is greatest in: - untreated infection; early disease; high VDRL/RPR titres; maternal co-infection with HIV; and where the mother has been re-infected during pregnancy.

"Syphilis infection in pregnancy is associated with miscarriage, preterm labour, stillbirth, hydrops fetalis and congenital syphilis. Congenital syphilis is uncommon in the UK, with approximately 10 cases reported annually. The level of risk ranges from 70 to 100% in primary syphilis, 40% in early latent syphilis and 10% in late latent syphilis.

Around two-thirds of babies with congenital syphilis will be asymptomatic at birth but most will develop symptoms by 5 weeks of age. Untreated congenital syphilis can result in physical and neurological impairments affecting the child's bones, teeth, vision and hearing" – see page 17 on following link https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/542492/NHS_IDPS_Programme_Handbook_2016_to_2017.pdf

Syphilis infection is staged according to the duration of infection i.e. the time from acquisition of primary infection.

2.1 Without treatment syphilis progresses through 4 stages:-

- **Primary** - where a person is symptomatic and highly infectious. Incubation period for primary syphilis is usually 21 days (range 9-90 days).
- **Secondary** - where a person is symptomatic and highly infectious. Usually occurs 4-10 wks after initial chancre. (25% of untreated people will develop this)
- **Latent** - Secondary syphilis will resolve spontaneously in 3–12 weeks and the disease enters an asymptomatic latent stage. (Approximately 25% of patients will develop a recurrence of secondary disease during the early latent stage).
- **Tertiary** - occurs in approximately one third of untreated patients around 20-40 years after the initial infection.

Early syphilis refers to the primary, secondary and early latent stages.

Late Syphilis refers to late latent syphilis or tertiary syphilis.

2.2 Clinical features of maternal syphilis and congenital syphilis can be viewed on the attached link. https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/

3 Syphilis testing in pregnancy

All pregnant women in Northern Ireland should be offered screening for Syphilis early in pregnancy (10-14 wks).
https://www.nice.org.uk/guidance/cg62/chapter/1-Guidance#screening-for-infections

For women presenting after 20 wks gestation or unbooked women presenting in labour, they should be offered syphilis screening as soon as possible and the bloods should be sent using the late booking form, see following link :-
http://www.rvl-belfast.hscni.net/wp-content/uploads/2014/05/Late_Booking_in_Pregnancy_request_form_V10.15.5.12.pdf

3.1 Screen positive result

There are three possible reasons for a screen positive result in pregnancy:-

1. Current syphilis infection.
2. Syphilis infection in the past which was successfully treated.
3. False positive or detection of another Treponemal infection (Bejel, Pinta, Yaws). (In cases of false positive / inconclusive results rescreening should take place 2 - 3 wks after the initial sample, to exclude a recent infection.)

3.2 Screen Negative result

Women who may be at risk of infection following an initial negative screening result e.g. iv drug users, commercial sex workers, women having unprotected sex with different partners or where her current partner has not been tested or treated, should be re-screened later in pregnancy(28-32 wks).

4 Responsibilities following a maternal Syphilis Diagnosis :-

4.1	LABORATORY SERVICE RESPONSIBILITIES	TMESCALE
4.1.1	All syphilis reactive samples tested in the Northern Ireland Blood Transfusion Service (NIBTS) should be sent to the Regional Virology Laboratory for confirmation of positive infection.	ASAP- prior to reporting the result to the Trusts.
4.1.2	All late booking syphilis reactive samples >20 wks gestation, tested in the Regional Virology Laboratory Belfast (RVL), should be confirmed positive by performing TPPA, IgM and RPR testing.	ASAP- prior to reporting the result to the Trusts.
4.1.3	For confirmed positive results a secure email should be sent by the laboratory to which the initial sample was sent, to the agreed generic email addresses for each Trust Antenatal Screening Coordinators – see below.	Within 8 days of initial sample being received (standard 4 Infectious Diseases in Pregnancy Screening: programme standards).
4.1.4	Late booking samples> 20 wks gestation should be processed by the RVL ASAP.	On receipt of sample – result typically within 2 working days.
4.1.5	Unbooked women presenting in labour should have samples processed urgently, by Virology lab and results communicated to Maternity unit.	Within 4 hours of sample being sent to labs.
4.1.6	For inconclusive results a repeat sample should be requested.	2 – 3 weeks from the initial sample.

Agreed e-mails contacts for each Trust:-

- DL-BTUrgentScreenResult@belfasttrust.hscni.net Belfast Trust
- AIS@northerntrust.hscni.net NHSCT
- specialist.midwives@setrust.hscni.net SEHSCT
- antenatal.results@southerntrust.hscni.net SHSCT
- antenatalinfection.screening@westerntrust.hscni.net WHSCT

4.2	MATERNITY SERVICE RESPONSIBILITIES	Timescale	Comment
	Antenatal Management plan on receipt of confirmed syphilis positive result. (See flow chart appendix 1)		
4.2.1	Arrange urgent review appointment with named Obstetric Consultant / Antenatal Screening Co-Ordinator/ Deputy ANSC. (Organise interpreter if necessary.)	Within 10 days of receipt of result - Standard 5- IDPS	
4.2.2	Contact Genitourinary Medicine (GUM) services and provisionally arrange an urgent appointment for both mother and partner.	Prior to mother attending the above appointment.	
4.2.3	Give diagnosis and advice about syphilis both oral and written in appropriate language and using interpreters as necessary. (Information for women can be downloaded from: http://www.publichealth.hscni.net/publications/syphilis-protecting-your-baby-english-and-11-translations)	At initial review appointment in maternity services.	
4.2.4	Take bloods for confirmatory testing to confirm patient's identity.	At initial review appointment in maternity services.	
4.2.5	Offer prearranged appointment at GUM and stress the importance of attending this appointment. Also advise the woman to take her MHHR to this appointment.	At initial review appointment in maternity services.	
4.2.6	If there is a risk of Jarisch-Herxheimer reaction, contact Pharmacy to ensure maternal treatment is available and arrange admission to the appropriate ward for the administration of the first dose of treatment.	On advice from GUM	
4.2.7	If the woman states that she is unable to attend GUM, inform Obstetric Consultant and liaise with GUM consultant regarding further screening and treatment required.	Following initial review appointment in maternity services.	
4.2.8	Complete top section of "Antenatal Obstetric Management Plan" (Appendix 2) • File Copy in the Maternity Hand held records (MHHR) • Send copy to GUM	At initial review appointment in maternity services.	

4.2.9	Complete and send referral letter to GUM. (Appendix 3) Insert a copy of this referral in the Maternity Hand Held Records.	At initial review appointment in maternity services	
4.2.12	Antenatal Screening Co-Ordinator should send a memo to inform locally identified Paediatrician, named Consultant Obstetrician and ward managers of diagnosis, brief history, gestation and EDC.	Following initial GUM feedback.	
4.2.13	Infant management plan (Appendix 5) to be completed by Paediatrician / ANSC.	At next review appointment after 26 wks and at Paediatric review appt if appropriate.	
4.2.14	Consultant Obstetrician to send referral to a fetal medicine consultant for evaluation of fetal involvement, in cases of early syphilis infection or if 26wks has been reached prior to treatment.	At next review appointment after 26 wks.	
4.2.15	If mother has been previously adequately treated for syphilis a repeat test for syphilis RPR should be sent later in pregnancy.	Around 28-32 wks gestation.	
4.2.16	If required arrange antenatal appointment for mother to see local Paediatrician - see infant management plan Appendix 5.	Prior to 36wks gestation.	
4.2.17	Ensure follow-up of all non-attendance at appointments either at GUM or ANC.	ASAP Following notification of non-attendance.	
4.2.18	Antenatal Screening Co-Ordinator should send a reminder memo to: - locally identified Paediatrician, named Consultant Obstetrician and ward managers to remind them of the impending delivery and necessary management of mother and baby.	Around 36 wks gestation.	

4.3	**Management plan for women presenting unbooked in labour.** **Maternity services responsibilities.**	**Time scale**	**Comment**
4.3.1	Provide information on syphilis screening to woman as soon as possible after admission.	Within 1 hour of admission or ASAP	
4.3.2	Offer and recommend syphilis screening to mother and complete the consent form in the MHHR. Use Late booking form for tests, see link below. Make sure contact details have been provided on the form for BMS to phone results back to. http://www.rvl-belfast.hscni.net/wp-content/uploads/2014/05/Late_Booking_in_Pregnancy_request_form_V10.15.5.12.pdf	Within 1 hour of admission or ASAP	
4.3.3	Inform RVL that infection screening bloods have been taken and the urgency of results. Phone duty virologist on 07889086946 or out of hours contacts Microbiology BMS on call via RVH switchboard.	When blood samples have been obtained.	
4.3.4	Organise a taxi if appropriate to transport specimen to the RVL and document the time the bloods leave the unit.	ASAP once samples have been taken	
4.3.5	Ensure timely follow up of results.	Within 2-4 hours of sending	
4.3.6	If result is positive for Syphilis, consult with GUM services regarding maternal treatment and treat baby as per Scenario 3 “Infant Management plan”. (Appendix 5) On-Call Genito-Urinary Medicine Consultant 90240503 Department of Genito-Urinary Medicine Belfast (9am-5pm) 90634050	During labour and following delivery	

4.4	**Intranatal management plan** **Maternity services responsibilities.**	**Time scale**	**Comment**
4.4.1	Inform resident Paediatrician if necessary as per "Infant Management Plan" (Appendix 6)	When mother is admitted to delivery suite.	
4.4.2	If indicated check mother's syphilis serology at delivery for RPR, TPPA–using a **5ml clotted blood**, and general virology form stating mother of -infant's name. (Bloods to be sent together with baby's blood)	Following delivery.	
4.4.3	If the woman has an active genital lesion (chancre) at time of admission in labour, Caesarean Section is recommended.	ASAP following admission in labour.	
4.4.4	Breastfeeding is not contra-indicated unless there is an active lesion on the breast.	Once baby is delivered	
4.4.5	Inform Paediatrician if necessary of birth of baby	Once baby is delivered	

4.5	**GENITO-URINARY MEDICINE SERVICE RESPONSIBILITIES (See appendix 1)**	**TIMESCALE**
4.5.1	Arrange urgent appointment to make differential diagnosis on stage of syphilis infection.	ASAP following referral from Maternity.
4.5.2	Arrange treatment if required with Benzathine Penicillin G preferably (of note this is unlicensed for use in pregnancy so hospital policy for dealing with unlicensed medications should be followed) and give advice on the risks of treatment as per BASHH guidelines- https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/	At initial appointment.
4.5.3	Liaise with maternity services if the mother needs to be admitted for observation during initial treatment, if there is a risk of Jarisch-Herxheimer reaction.	Following Initial assessment.
4.5.4	Complete Sexual Health screen including testing for Hepatitis C.	At initial appointment.
4.5.6	Provide sexual health advice to mother including prevention of re-infection and onward transmission.	At initial appointment.
4.5.7	Discuss partner notification and identify sexual contacts as per BASHH guidelines. Arrange follow-up of same.	ASAP
4.5.8	Refer mother's other children if necessary to Paediatric Infectious Disease Consultant for assessment and testing.	Following initial appointment.
4.5.9	Send letter to woman's Obstetric Consultant and Local Antenatal Screening Co-Ordinator advising of differential diagnosis, treatment required, results of STI screen and risk of re-infection.	Following Initial Appointment.
4.5.10	Arrange appointments for follow up bloods to be taken, to ensure efficacy of treatment.	After treatment completed.
4.5.11	Complete “Antenatal GUM Management plan” (Appendix 4) in MHHR	At each review visit.
4.5.12	Inform Obstetrician/ ANSC of any non-compliance with appointments at GUM or post treatment follow up bloods.	ASAP

4.6	**PAEDIATRIC RESPONSIBILITIES (see appendix 5+6)**	**TMESCALE**
	ANTENATAL	
4.6.1	Identify named paediatrician(s) for follow-up of infants/children of syphilis positive women.	On receipt of referral
4.6.2.	Screen other siblings for syphilis if necessary.	Following referral from GUM.
4.6.3.	Arrange to see patient antenatally if necessary- liaise with Antenatal Screening Co-Ordinator.	Prior to 36wks gestation if possible.
4.6.4.	Complete "Infant Management Plan" (Appendix 5) (ANSC to complete this if an antenatal review is not necessary.)	At Antenatal review visit if appropriate.
	POSTNATAL	
4.6.5.	Follow "Infant Management plan" (Appendix 5+ flow chart Appendix 6)	Following delivery of the baby.
4.6.6.	**Scenario 1:**- **Mother adequately treated prior to this pregnancy:-** • No further treatment or follow-up required	Following routine baby examination prior to discharge.
4.6.7.	**Scenario 2**:- **Mother adequately treated for syphilis during this pregnancy with low risk of congenital syphilis:** - • Treated with Benzathine Penicillin. • Treatment completed > 30 days prior to delivery. • 4 fold decrease in RPR achieved. • Final RPR titre < 1in 2 (VDRL 1in 1) • HIV negative.	
i)	Assess the infant for signs of congenital syphilis (Appendix 7) https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/	At birth.

ii)	Send infant bloods (venous sample- not cord bloods and send together with maternal bloods), requesting 'Syphilis screen + RPR + Treponemal IgM'.	Following delivery.
iii)	Compare blood results with that of mothers.	As soon as results are available.
iv)	Arrange follow up appointments for infant.	Prior to discharge. At 3 months of age and 3 monthly until RPR negative.
v)	Request" Syphilis screen+ RPR + Treponemal IgM".	At each review appointment.
vi)	Review blood results and take action if necessary. If infants treponemal IgM is positive and there are clinical signs or a corroborative history seek advice from GUM regarding treatment and perform 'further tests'.	When results are available either by hard copy or on labs system.
vii)	If infant's RPR / VDRL titre is 4 x mother's on two occasions, perform 'further tests' and treat baby as per scenario 3.	At any stage following delivery.
4.6.8.	**Scenario 3 :-** **There is a significant risk of congenital syphilis:-** • Inadequate or no treatment of mother. • Treatment with Non-Penicillin drugs. • Maternal treatment <4 wks prior to delivery • Mother has early syphilis. • Maternal 4 fold decrease in RPR not achieved. • Final RPR>1in 4 (VDRL>in 2) • Clinical features of congenital syphilis. • Mother HIV positive.	
a)	**At birth**: assess infant for signs of congenital syphilis - https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/	Following delivery

b)	**<u>Perform initial blood tests</u>**:- • Send a venous blood sample (not cord blood and send together with maternal bloods) request- "Syphilis screen +RPR and treponemal IgM' • FBC,U+E, LFT, ALT/AST	Following delivery.
d)	**<u>Perform further tests:-</u>** • Lumbar puncture (request- WBC, VDRL or RPR, TPPA, protein) -CSF should not be blood-stained. • Long bone X-rays for osteochondritis and periostitis. • Chest X-ray for cardiomegaly. • Cranial U/S scan. • Ophthalmology assessment for interstitial keratitis. • Audiology for 8th nerve deafness. • Samples from lesions if present for dark ground microscopy (DGM) and PCR for T. pallidum	Following delivery.
e)	Follow up all investigations performed and take appropriate action.	As soon as results are available.
f)	Commence treatment for congenital syphilis: - (Should only be given by a trained / Senior Paediatrician.) • Benzylpenicillin sodium, 60–90 mg/kg daily IV (in divided doses given as 30 mg/kg 12-hourly in the first seven days of life. • 8-hourly thereafter for 3 days. • Treatment for 10 days in total.	As soon as possible after delivery
g)	Arrange follow- up appointments:- • Months 1 and 3: Request 'syphilis screen + RPR + Treponemal IgM. Months 6 and 12: Request RPR only.	Prior to discharge at 1month, 3 months , 6 months and 12 months.
i)	Discharge infant	When RPR has dropped at least fourfold or becomes negative.
j)	Establish process for follow-up of DNAs.	On going

5. REFERENCES

British Association of Sexual Health and HIV (BASHH) UK national guidelines on the management of syphilis 2015 update in June 2017.

https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/

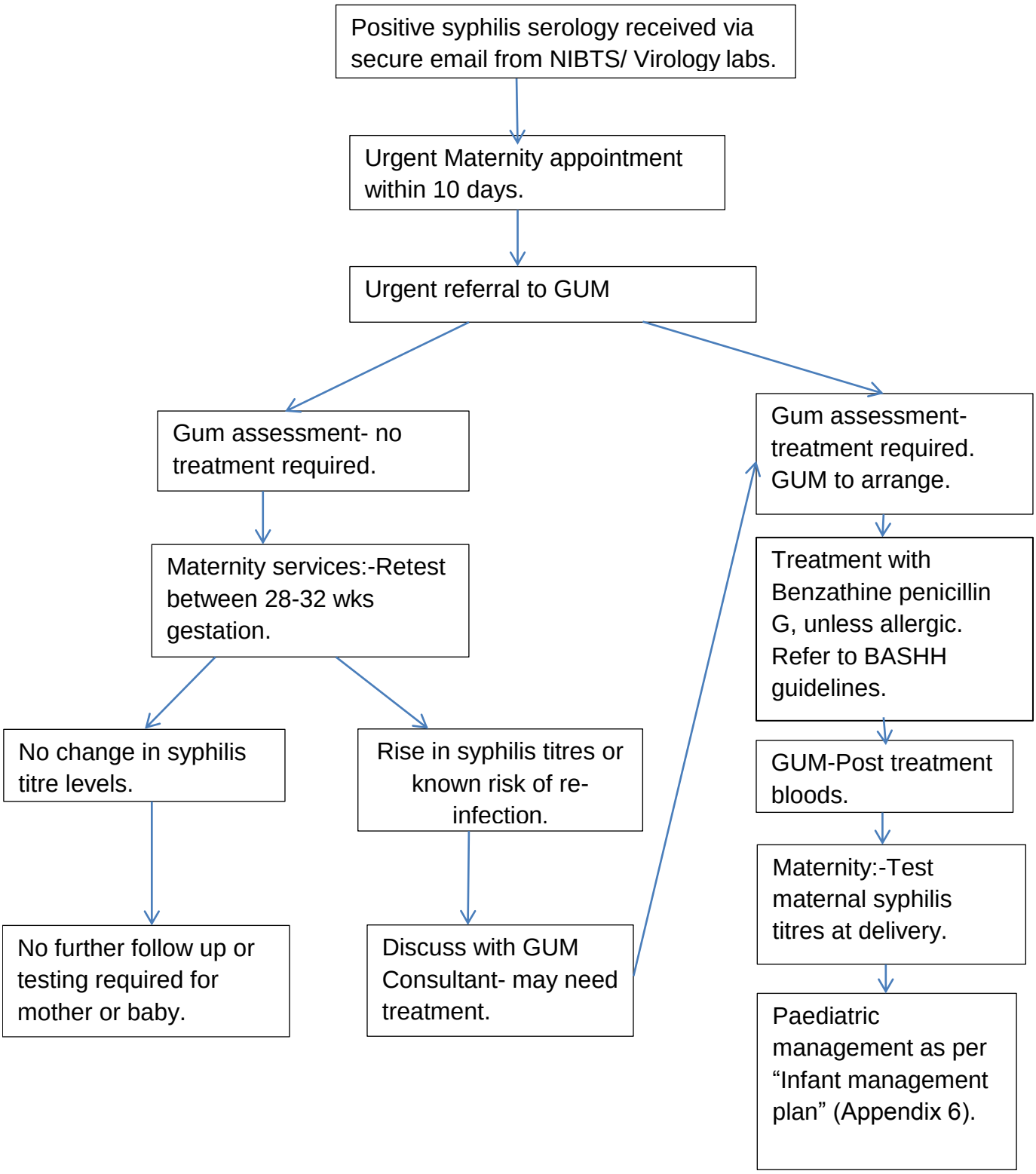
Screening for infectious diseases in pregnancy. Standards to support the UK Infectious Diseases in Pregnancy Screening Programme.
http://infectiousdiseases.screening.nhs.uk/standards

NHS Infectious Diseases in Pregnancy Screening Programme Handbook 2016 to 2017
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/542492/NHS_IDPS_Programme_Handbook_2016_to_2017.pdf

National Institute for Health and Care excellence
https://www.nice.org.uk/guidance/cg62/chapter/1-Guidance#screening-for-infections

Appendix 1

Maternal Management of confirmed syphilis positive results.



Appendix 2 **Antenatal Obstetric management plan for syphilis positive mother.**
(To be completed by Obstetrician/ ANSC)

<table>
<tr><td>ID label</td><td colspan="2">Named Consultant + Hospital</td></tr>
<tr><td>Gestation:- weeks
EDC:-</td><td colspan="2">History of previous syphilis infection: Yes / No
Previously treated Yes/No Where? ……
Year:-</td></tr>
<tr><td rowspan="4">Baseline syphilis serology:-</td><td>Rapid Plasma Reagin (RPR) titre</td><td></td></tr>
<tr><td>TPPA</td><td></td></tr>
<tr><td>T Pallidum EIA IgM</td><td></td></tr>
<tr><td>T Pallidum antibody (total)</td><td></td></tr>
<tr><td colspan="3">Previous obstetric history:
_____
_____
_____
_____
HIV status :- Hepatits B status:-
• Confirmatory bloods taken for syphilis serology:- ☐
• Written information given. ☐
Signed:- Status:- Email:- Date</td></tr>
<tr><td colspan="3">To be completed at subsequent A/N visits:-
• Attended GUM Yes/ No
• Referral to fetal medicine(if >24 wks gest prior to treatment / early infection) Yes / No date___/___/____
• Paediatric Appointment arranged:- Yes / No
Signed:- Status:- Email:-
Date:-</td></tr>
</table>

Appendix 3

OBSTETRIC REFERRAL LETTER TO GUM (please file a copy in the maternity hand held record)

Name
Address
H+C number
DOB

Dear Doctor,

_____ is now _____ weeks gestation in her _____ pregnancy.

Her EDC is _____.

Her antenatal syphilis screening test is positive. (see enclosed lab report.)

Her Hepatitis B status is: - HIV status: -
Interpreter required: - Y/N Language spoken:-

In order to allow us to provide correct pregnancy management and to assist the Paediatricians in planning the management of the baby please can you see her and advise the following:

Definitive diagnosis

Treatment required

Compliancy with treatment

Next GUM review appointment

Schedule for follow up/further bloods

Results of full STI screen –

Please could you complete the GUM management plan (Appendix 5) inserted into her MHHR at each visit to yourselves and we will review this at each visit to maternity services.

Her next antenatal review appointment is _____ when she will be _____ wks gestation.

Many thanks

Consultant Obstetrician_____ Email: _____

Antenatal Screening Coordinator _____ Email:-_____

Appendix 4 **Antenatal GUM management plan for syphilis positive mother.**

(To be completed by Genital-Urinary Medicine)

Name and Hosp number: - ……

Differential diagnosis :-

Primary ☐ Secondary ☐ Early latent ☐ Late Latent ☐

Adequately treated before pregnancy ☐ Inadequately treated / treatment not documented ☐

Possibility of re-infection from untreated partner ☐

Hepatitis C :- Neg / Pos If positive referred to hepatology: - Yes / No

Results of STI screen:-……

Syphilis treatment given:- No / Yes Date commenced:- __/___/__

Date completed:-___/___/___

Details: -

……

……

Advised admission to ward (due to risk of Jarisch-herxhiemer reaction > 24 wks gest) Yes/No

Signed:- Status:- Email:- Date:-

Record of review appointments at GUM:-

Review Date	**Comment**	**Signature**

Date of blood results	**VDRL or RPR ti**	**TPPA titre**	**Treponema EIA IgM**	**Signature**

Appendix 5 Infant management plan for infants born to syphilis positive mother

(To be completed by Paediatrician / ANSC in the antenatal period and by Paediatrician in postnatal period if a review is necessary.)

Maternal Details:- **Infant Details:-**

Scenario 1. No risk of congenital syphilis: - mother adequately treated *prior* to this pregnancy.

- Antenatal appointment with Paediatrician **not required**. ☐

At birth:-
- Infant requires **no** additional physical examination or tests for syphilis above routine.
- No need to contact on- call Paediatric team from syphilis viewpoint.

Treatment:-
- No treatment required.

Follow-up:-
- No follow-up of infant required for syphilis.

Signed:- Status:- Date:-

Scenario 2. Low risk of congenital syphilis:- Mother adequately treated for syphilis *during* this pregnancy (except in cases of early syphilis), treated with Benzathine Penicillin, treatment completed > 30 days prior to delivery, 4 fold decrease in RPR achieved, final RPR titre < 1in 2 (VDRL 1in 1), HIV negative.

- Antenatal Appointment with Paediatrician required. ☐

At Birth:-
- Contact on- call Paediatric team when baby is delivered.
- Assess infant clinically for signs of Congenital syphilis – (Appendix 7)
- Send infant bloods (venous sample- not cord bloods, together with maternal blood), requesting 'Syphilis screen + RPR + Treponema IgM'.

Treatment :-
- No treatment required for Infant unless initial tests prove otherwise.

Follow – up:-
- Repeat 'Syphilis screen + RPR + Treponema IgM' at three months of age in all babies, then every three months until RPR is negative or has dropped fourfold.
- If clinical signs and/or serology suggest congenital syphilis, manage according to scenario 3.

Signed:- Status:- Date:-

<u>Scenario 3.</u> There is a significant risk of congenital syphilis –
e.g. – partial or no treatment; treatment with non-penicillin drugs; treatment < 30 days before birth; early syphilis infection;4 fold drop in RPR not achieved; final RPR titre > 1in 4 (VDRL>1in 2); HIV positive.

- Antenatal Appointment with Paediatrician required. ☐

At Birth:-

- Assess infant clinically for signs of Congenital syphilis – (Appendix 7)
- Send bloods for "Initial blood tests" and perform "further tests"and 'Additional tests' if lesions present. (Appendix 7)

Treatment:-

- Treat infant at birth as follows:- Benzylpenicillin sodium, 60–90 mg/kg daily IV (in divided doses given as 30 mg/kg 12-hourly in the first seven days of life and 8-hourly for the next 3 days for a total of 10 days. **(**Should only be given by a trained / Senior Paediatrician.)

Follow- up: -

- Months 1 and 3: Request 'syphilis screen + RPR + Treponemal IgM'.
- Months 6 and 12: Request RPR only.
- Discharge the infant when RPR titre has dropped at least fourfold (e.g. from 1 in 32 to 1 in 8) or becomes negative.

Signed: - Status: - Date:-

<u>Paediatric review Antenatally</u>:-

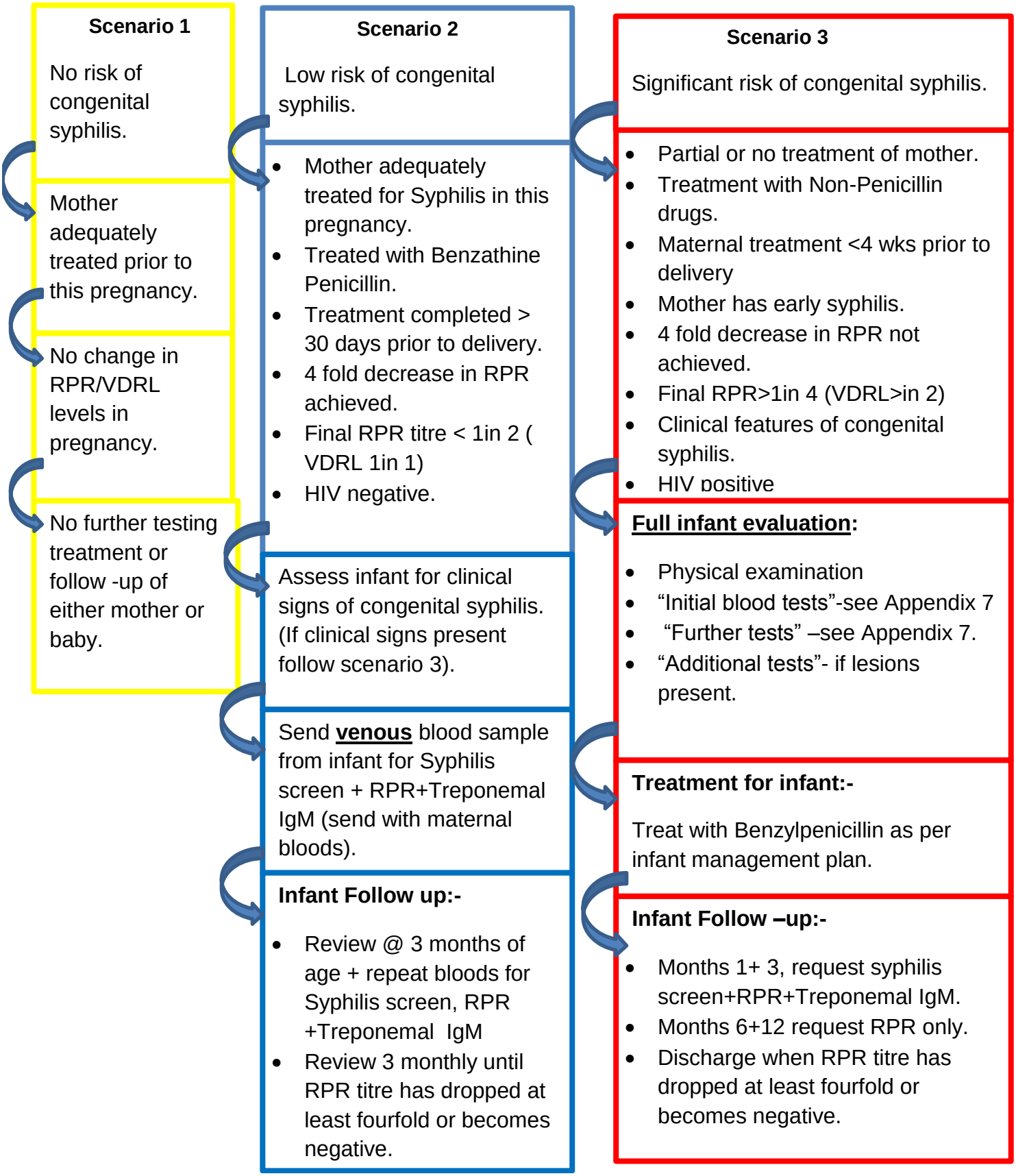
Signed: - Status: - Date:-

<u>Paediatric review postnatally</u>:-

Signed: - Status: - Date:-

Appendix 6

Infant management plan for infants born to syphilis positive mothers.



Appendix 7.
Signs of Congenital Syphilis
https://www.bashhguidelines.org/current-guidelines/genital-ulceration/syphilis-2015/

Early (within two years of birth)

2/3 will be asymptomatic at birth but will develop signs within 5 weeks

Common signs:

- rash
- haemorrhagic rhinitis
- generalised lymphadenopathy
- hepatosplenomegaly
- skeletal abnormalities

Other signs:

- condylomata lata
- vesiculobullous lesions
- osteochondritis
- periostitis
- pseudoparalysis
- mucous patches
- perioral fissures
- non-immune hydrops
- glomerulonephritis
- neurological ocular involvement,
- haemolysis and thrombocytopenia

Paediatric investigations following delivery:-

Initial blood tests:
- Send a venous blood sample **(not cord blood** and send together with maternal bloods**)** to regional virology laboratory requesting 'Syphilis screen +RPR and treponemal IgM'.

Further tests :-
- FBC,U+E, LFT, ALT/AST
- Lumbar puncture (request- WBC, VDRL or RPR, TPPA, protein) -CSF should not be blood-stained.
- Long bone X-rays for osteochondritis and periostitis
- Chest X-ray for cardiomegaly
- Cranial U/S scan
- Ophthalmology assessment for interstitial keratitis
- Audiology for 8th nerve deafness

Additional tests on Infant if lesions present:-

- T pallidum polymerase chain reaction (PCR) test
- Dark ground microscopy (DGM)

Appendix 8.

GUIDE TO INFANT LABORATORY TESTS

Treponemal IgM

A positive treponemal IgM test is supportive of a diagnosis of congenital syphilis, but must be interpreted in conjunction with the history, clinical signs and results of other syphilis blood tests. A negative IgM test does not exclude infection as the IgM response may be delayed or suppressed.

Rapid plasma reagin (RPR) or Venereal disease research laboratory (VDRL) test

The RPR and VDRL are different versions of the same test and availability will vary between laboratories. Passive trans-placental transfer of maternal IgG antibodies may cause a false positive RPR/VDRL test in the new-born but these usually revert to negative by 6 months. A positive RPR/VDRL test at a titre four-fold or more that of the mother (e.g. Mother 1: 4, infant 1:16) supports a diagnosis of congenital syphilis, and should be repeated. Ideally, maternal and infant tests should be timed as closely as possible and no greater than one month apart.

A neonatal RPR/VDRL titre less than four-fold that of the mother‘s (e.g. mother 1:16, infant 1:8) does not exclude congenital syphilis. Please discuss all neonatal test results with GUM and Paediatric ID consultant.

Full blood count

May show non-haemolytic anaemia, leucocytosis or leucopenia, thrombocytopenia, polychromasia, or erythroblastaemia.

Liver function tests/transaminases

Syphilitic hepatitis may cause elevated levels of alkaline phosphatase, AST/ALT, bilirubin.

U+E, creatinine

Syphilis can cause glomerulonephritis resulting in uraemia.

Polymerase chain reaction (PCR) testing

Ulcers, nasal discharge, mucous membrane lesions or moist skin rashes can be swabbed and the sample sent in viral transport medium (to Clinical Virology, Manchester Royal Infirmary) for T pallidum PCR testing.

Dark ground microscopy (DGM)

Ulcers, nasal discharge, mucous membrane lesions or moist skin rashes can be sampled and used to directly visualise T pallidum. However, specimen collection and microscopy require prior training. Microscopy should take place as soon as possible after the specimen is obtained. Call GU Medicine if you wish to perform DGM.

Placenta

The syphilitic placenta may appear macroscopically normal. If the fetus is severely affected by syphilis the placenta may appear paler, larger and thicker than normal. Histology of the placenta and cord (with special staining) may provide evidence of congenital infection.

Radiology

Most bone lesions in congenital syphilis are not clinically apparent. However, osteochondritis, periostitis and osteomyelitis are frequently present, most often in the long bones and ribs.Periostitis of the skull can produce frontal bossing on x-ray.

Appendix 9

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HSC Public Health Agency

Public Health Agency
12-22 Linenhall Street, Belfast BT2 8BS.
Tel: 0300 555 0114 (local rate).
www.publichealth.hscni.net

Find us on:

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